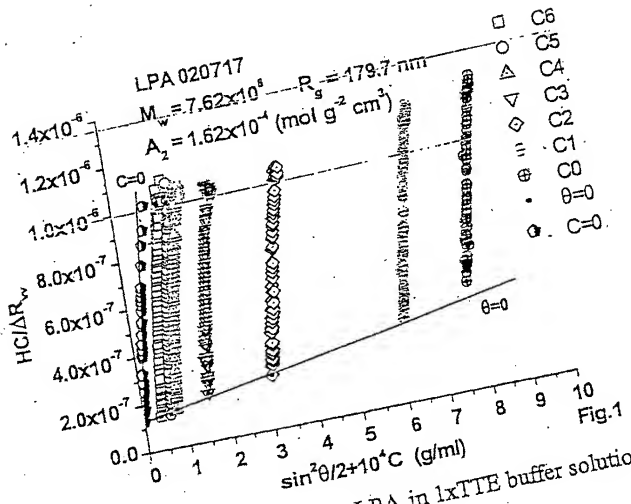


Fig. 1 Zimm plot of sample LPA in 1xTTE buffer solution at 25°C.

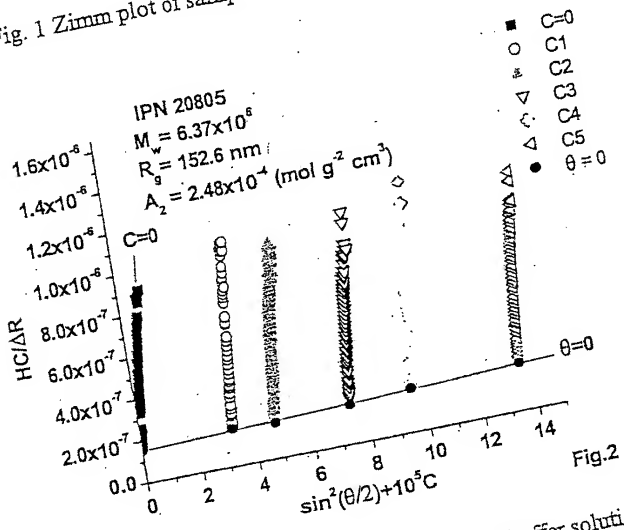


Fig. 2 Zimm plot of sample IPN in 1xTTE buffer solution at 25°C.

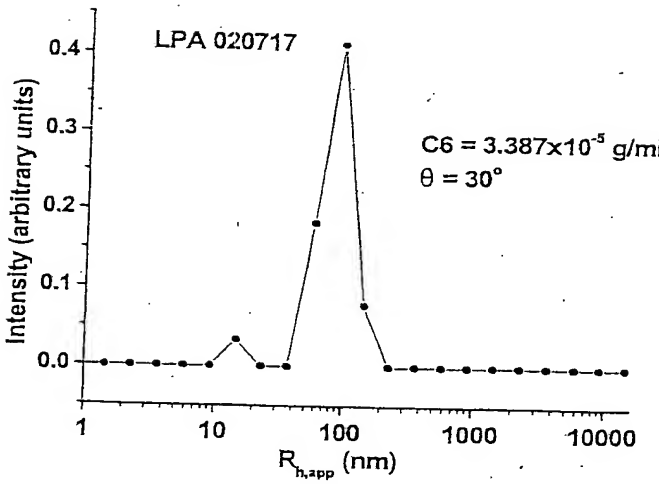


Fig. 3 Apparent hydrodynamic radius distribution of sample LPA measured at 25°C and scattering angle θ = 30°,C = 3.387x10^{-5} g/ml.

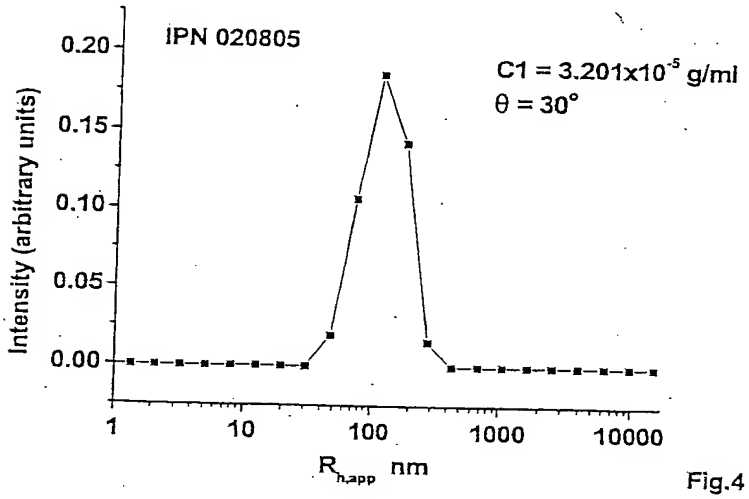


Fig.4 Apparent hydrodynamic radius distribution of sample IPN measured at 25°C and scattering angle θ = 30°,C = 3.201x10^{-5} g/ml.

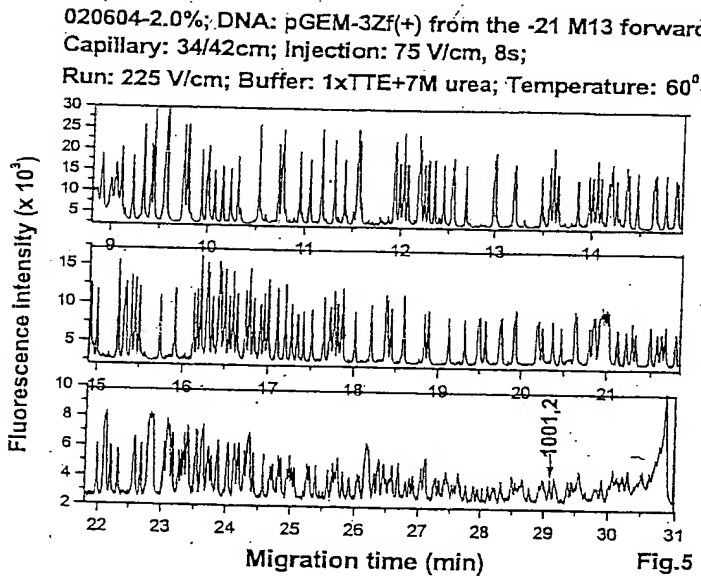


Fig. 5 Separation of DNA [PGEM-3Zf(+) from the-21M13 forward Primer] by CE in IPN/1xTTE+7M Urea buffer solution, C = 2.0% g/ml at 60°C. Capillary effective length is 34 cm, ID/OD=75/365 (um).

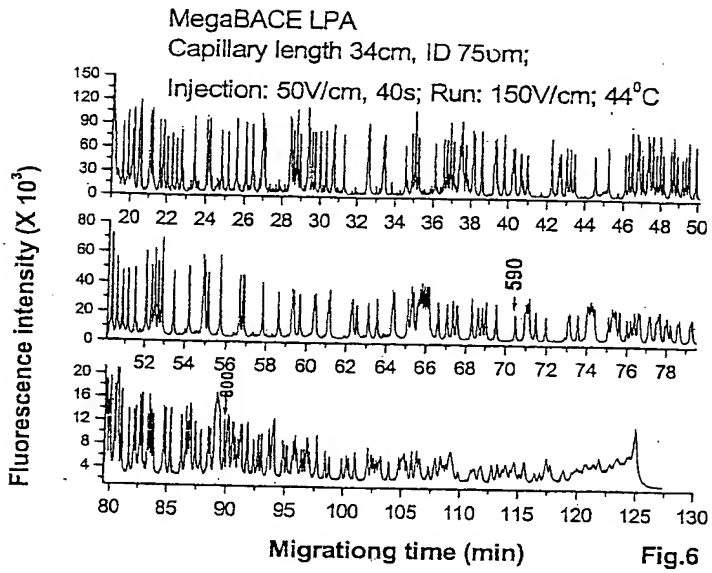


Fig. 6 Separation of DNA [PGEM-3Zf(+) from the-21M13 forward Primer] by CE in MegaBACE LPA/1xMegaBACE buffer, at 44°C and 150 V/cm. Capillary length is 34 cm, ID/OD=75/365 (um).

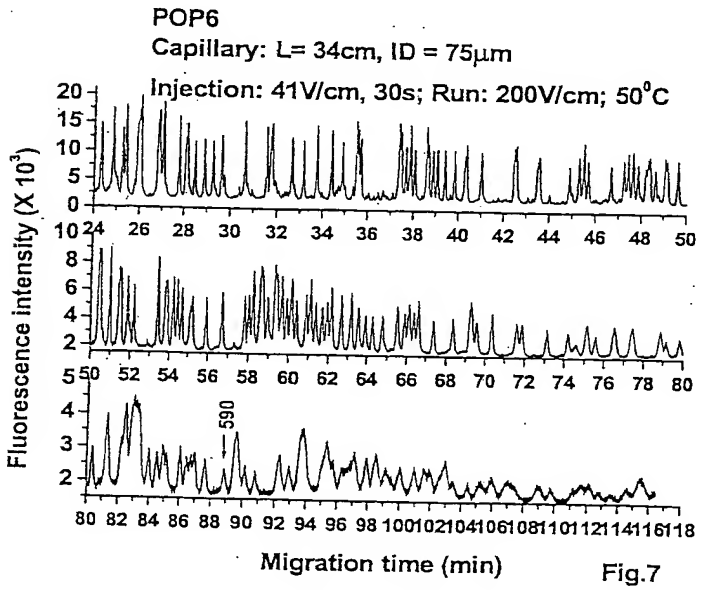


Fig.7 Separation of DNA [PGEM-3Zf(+) from the-21M13 forward Primer] by CE in POP6/1xTTE buffer, at 50°C and 200 V/cm. Capillary length is 34 cm, ID/OD=75/365 (um).

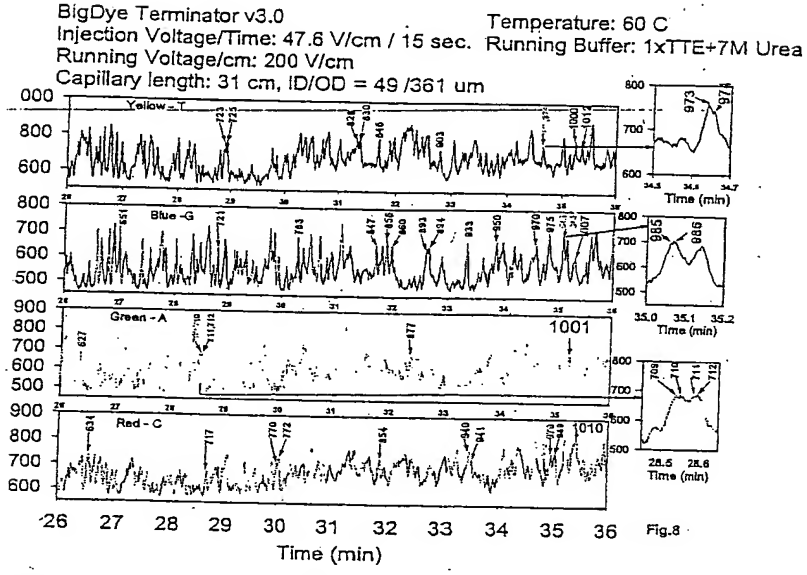


Fig.8 Last parts (base number from 600 to ~1000) of electrophoretic separation of DNA BigDye Terminator v3.0 by CE in

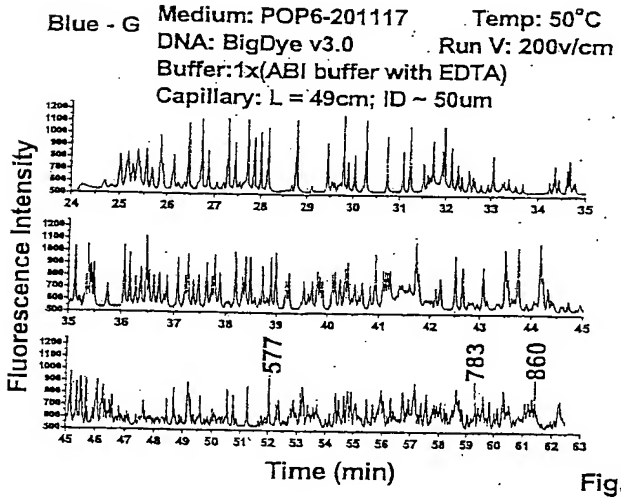


Fig.9

Fig. 9 Blue-G part of electrophoretic separation of DNA (BigDye Terminator v3.0) by CE in POP6/1xABI buffer solution. Instrument: ABI Prism 310 four colors single-capillary Genetic Analyser, at 50°C, Module seq POP6 (1mL) E. Capillary ID/OD = 50/361 (um).

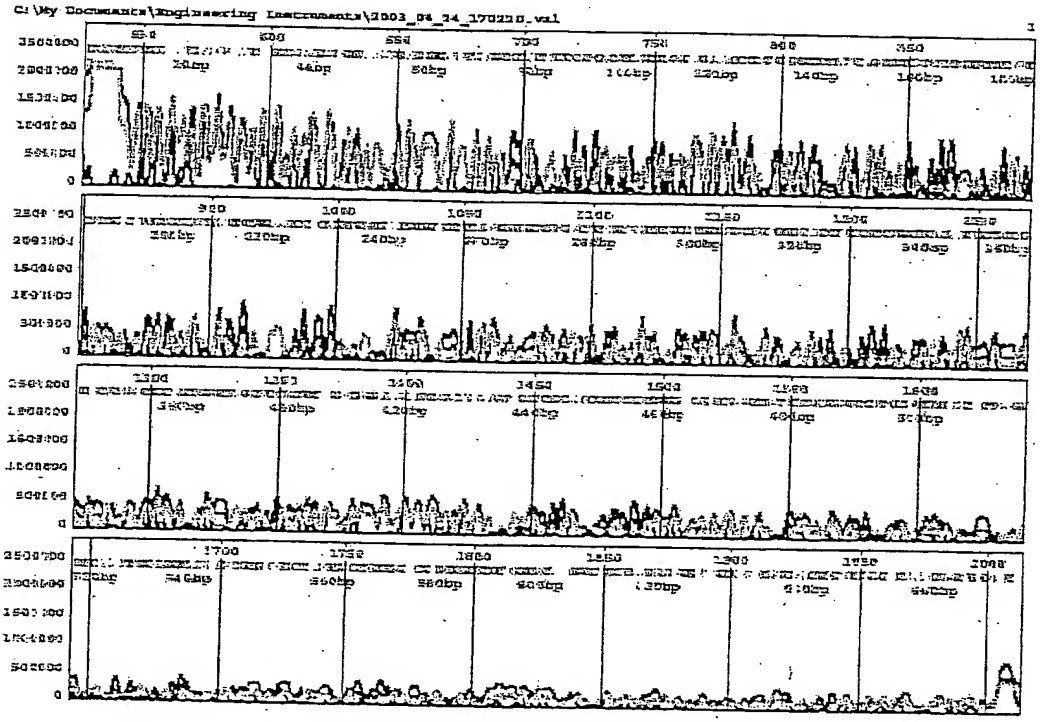


Figure 10 Four color DNA (BigDye Terminator v3.0) sequencing of 660 bp in less than ~33 min was achieved by Lab-made Sequencing Analyzer with 2.5% IPN/1xABI buffer as the separation medium. (Instrument and base calling software were made by Engineering Department of SUNY at Stony Brook).

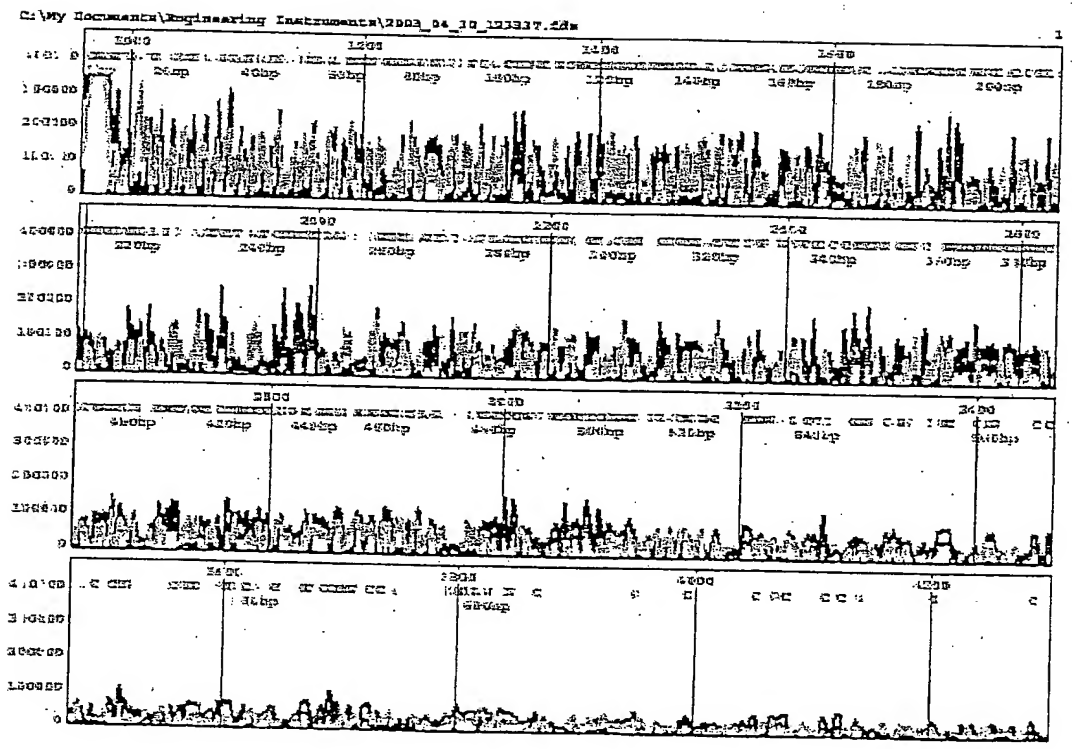


Figure 11. Four color DNA (BigDye Terminator v3.0) sequencing of 600 bp in ~63 min was achieved by Lab-made Sequencing Analyzer with POP7/1xABI buffer as the separation medium. (Instrument and base calling software were made by Engineering Department of SUNY at Stony Brook).

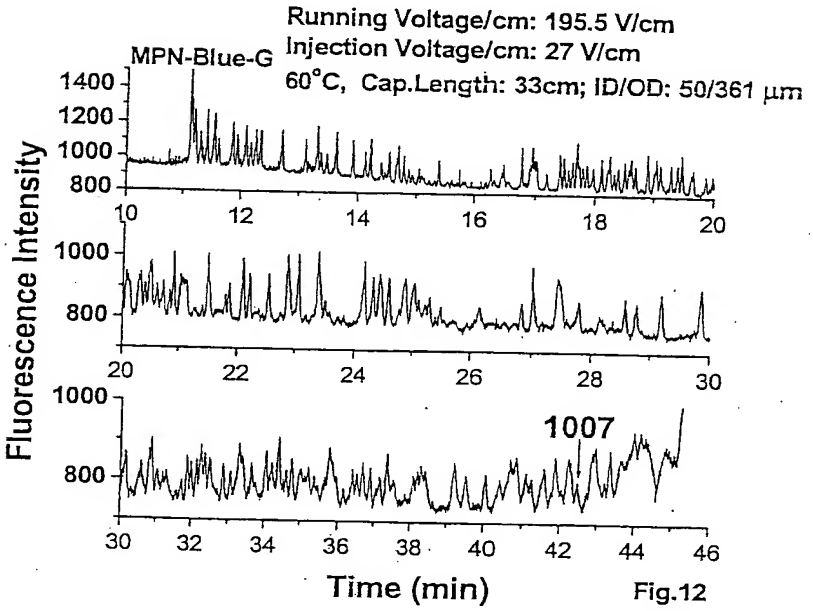


Fig. 12 Separation of DNA (BigDye Terminator v3.0) in LPA/PDMA IPN medium, in which the contents of LPA (MW = 7.6×10^6) and PDMA (MW ~ 470K) 87 % and 17 %, respectively. Running field is 195.5 V/cm, with injection time of DNA being 20s at 27 V/cm. The capillary effective length is 33 cm, and ID/OD = 50/361 (um).

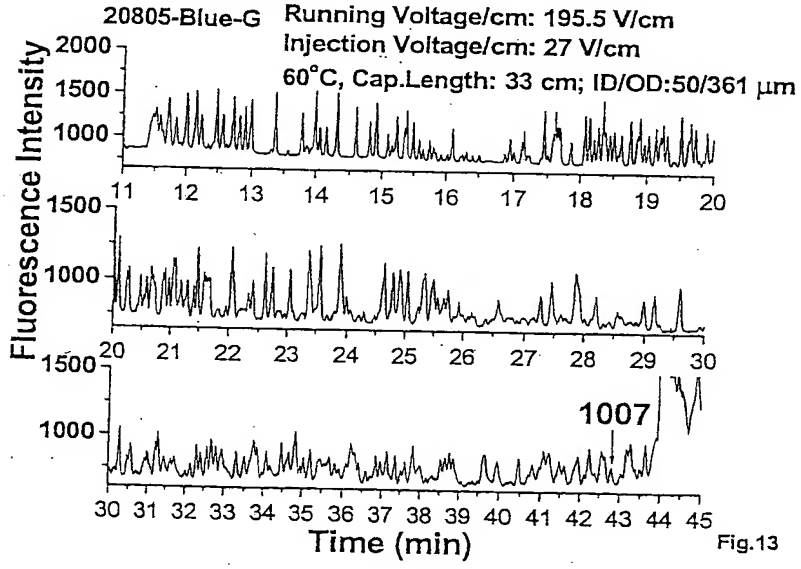


Fig. 13 Separation of DNA (BigDye Terminator v3.0) in IPN (20805)

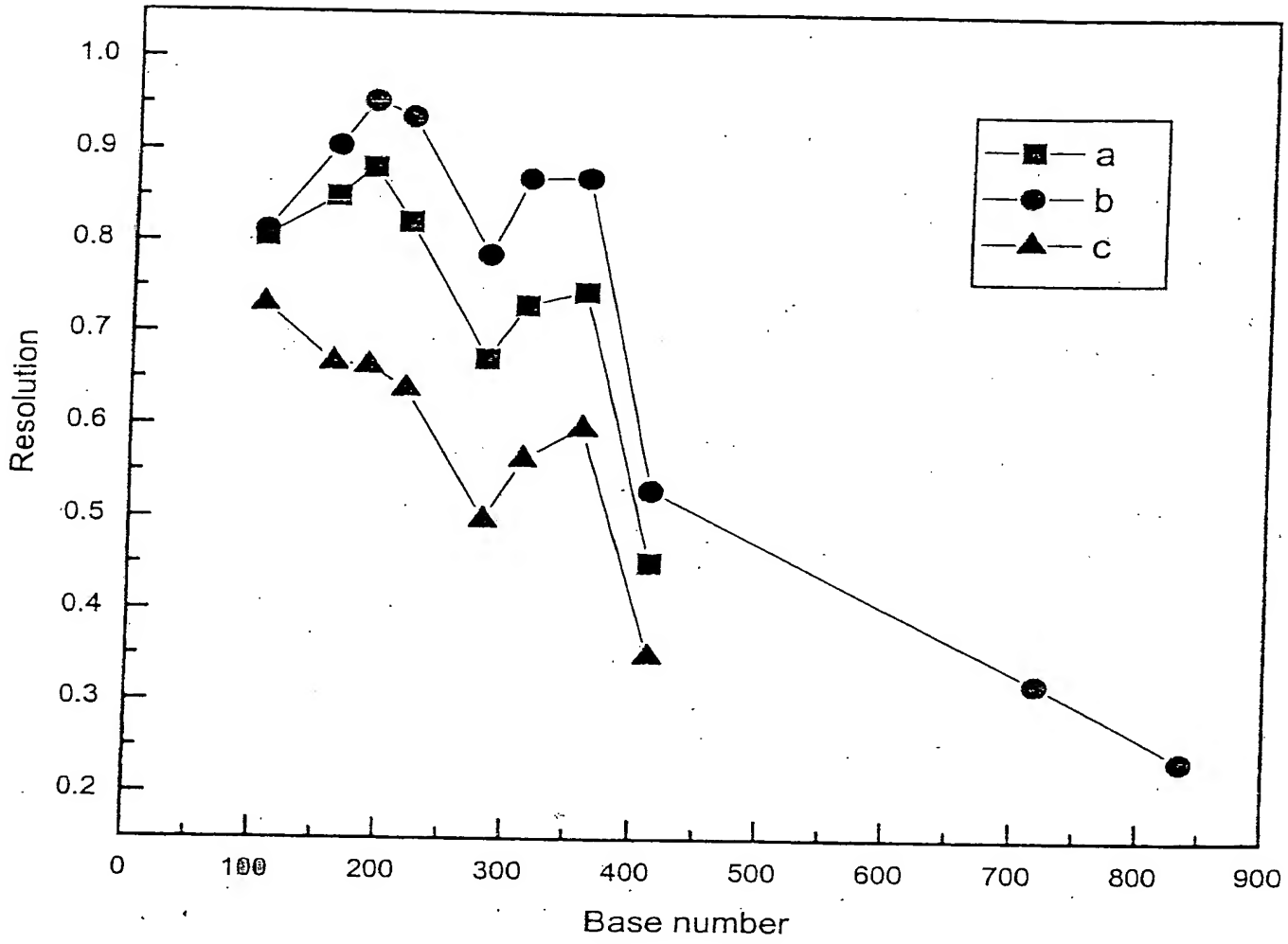

1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
Resolution
0
100
200
300
400
500
600
700
800
900
Base number
a
b
c

Figure 14

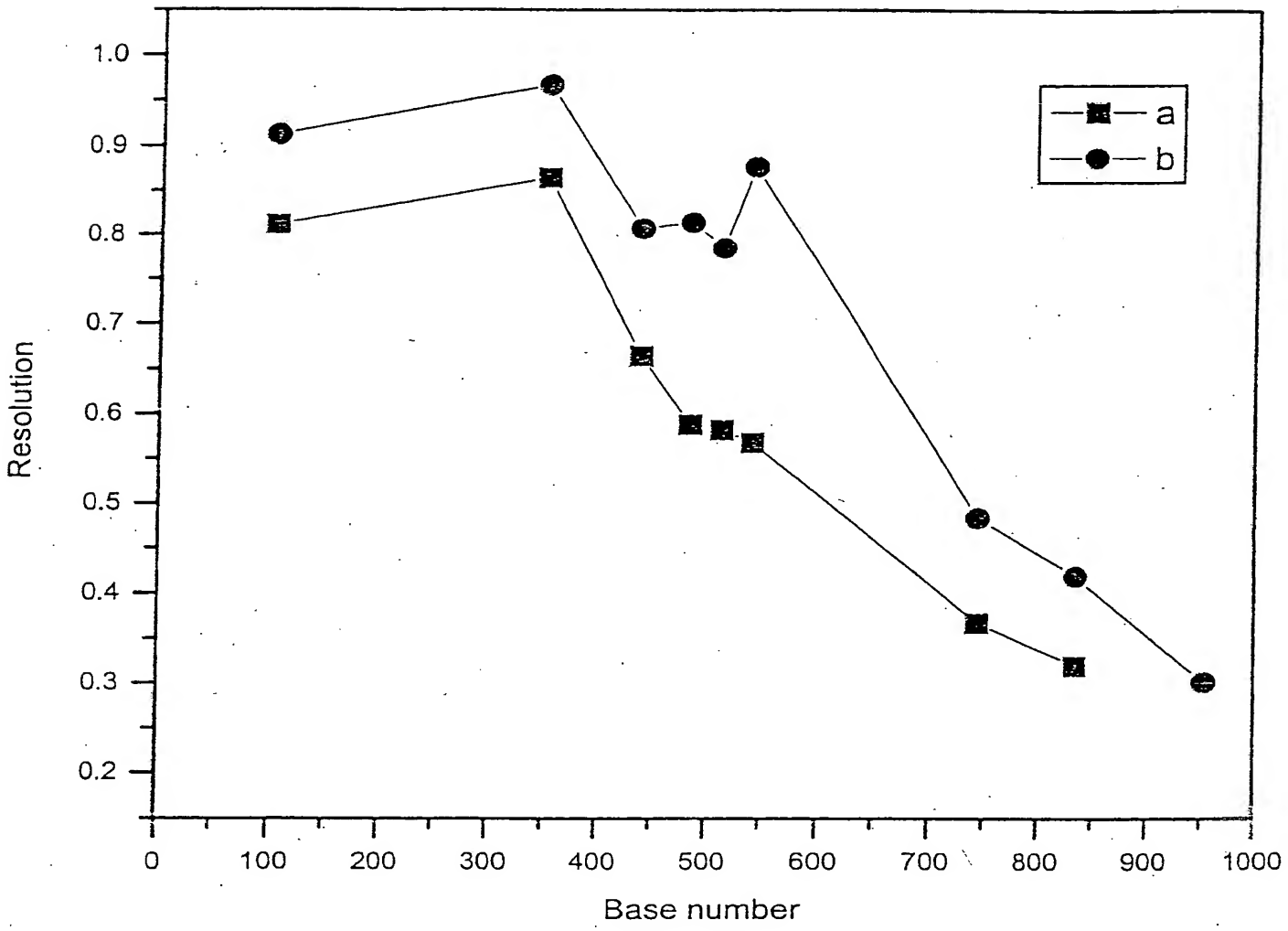

Resolution
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0
100
200
300
400
500
600
700
800
900
1000
Base number
a
b

Figure 15

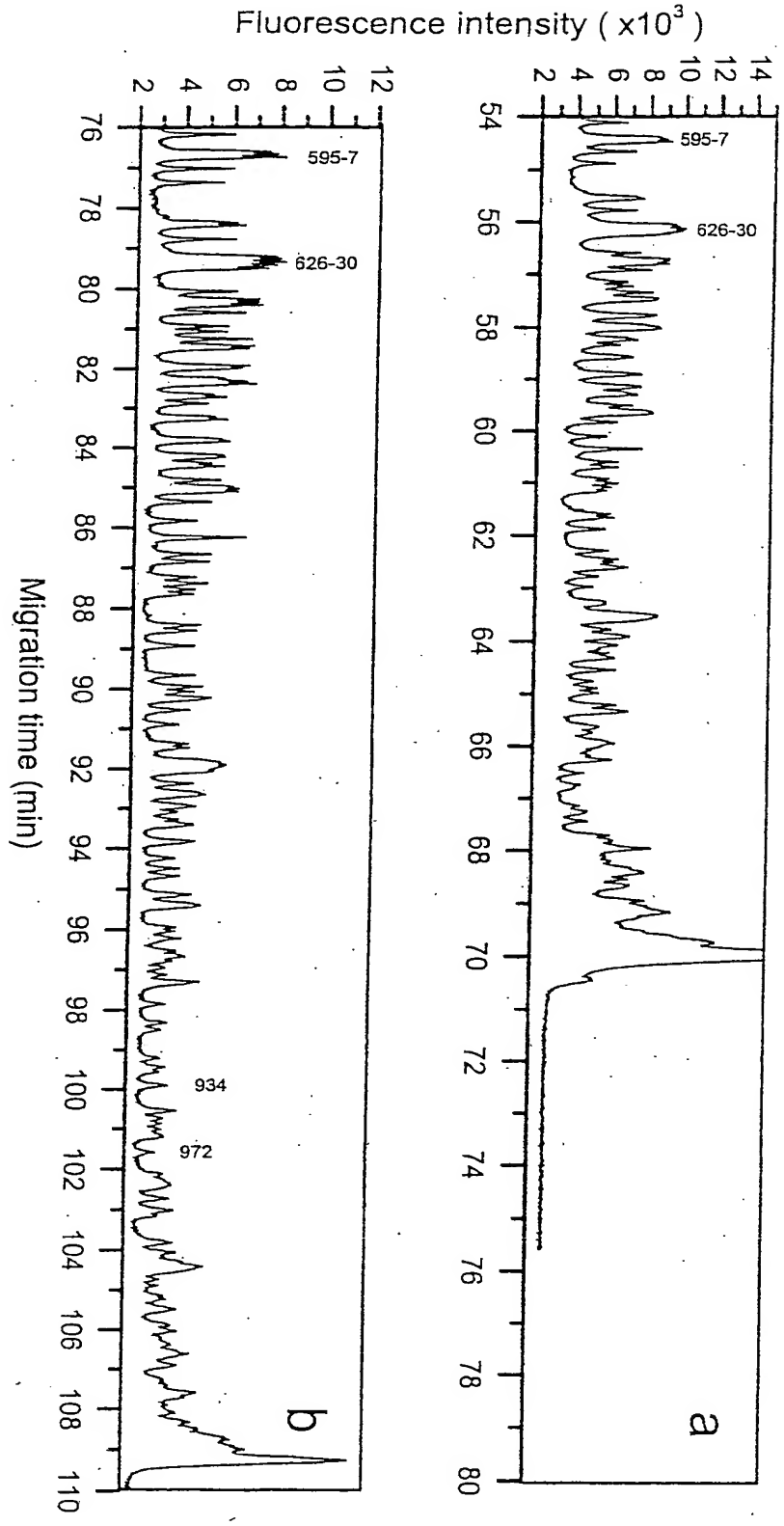

Fluorescence intensity (x10^3)
595-7
626-30
934
972
a
b
Migration time (min)

Figure 16

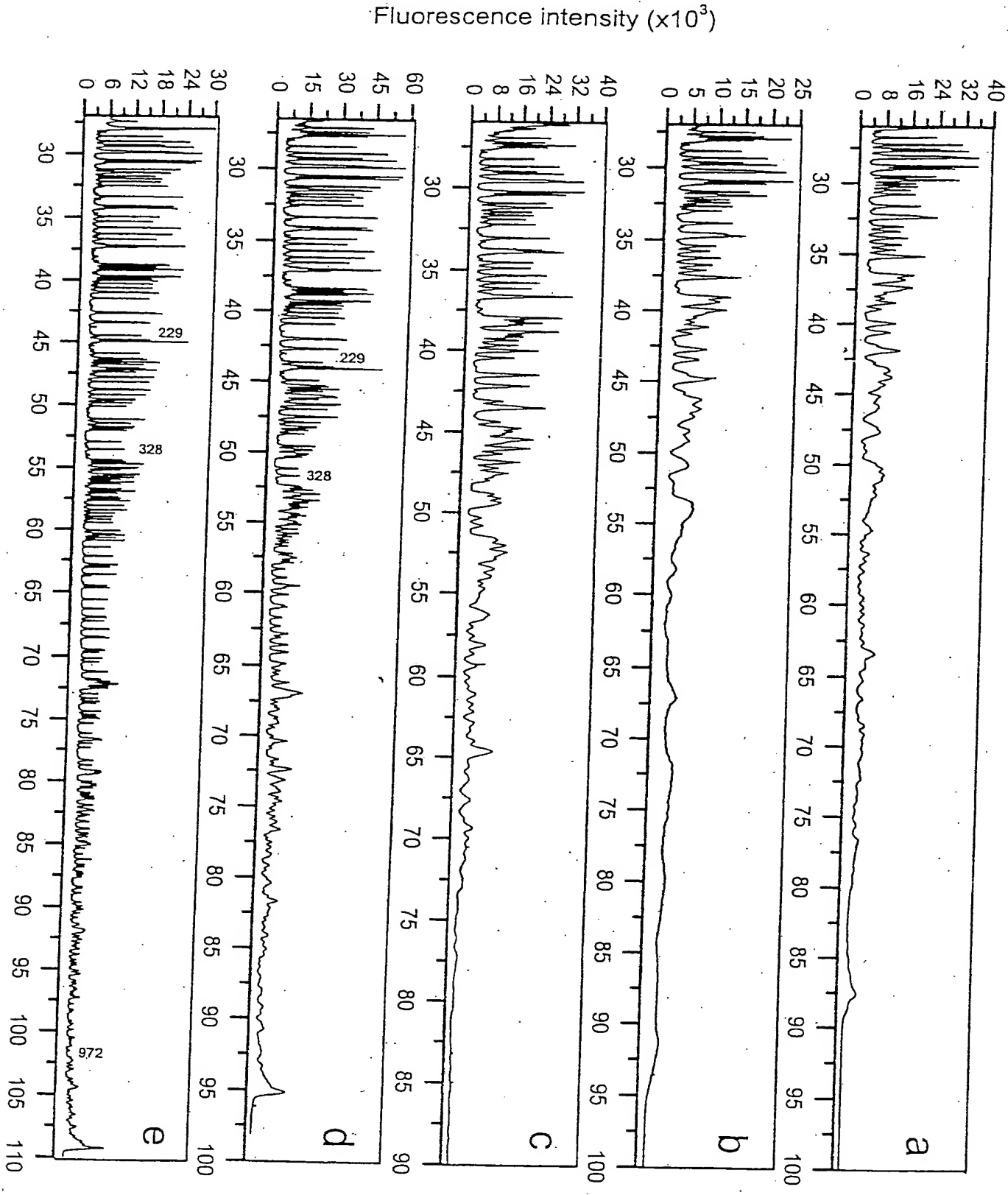

Fluorescence intensity (x10³)
a
b
c
d
e
229
328
972
Migration time (min)

Figure 17

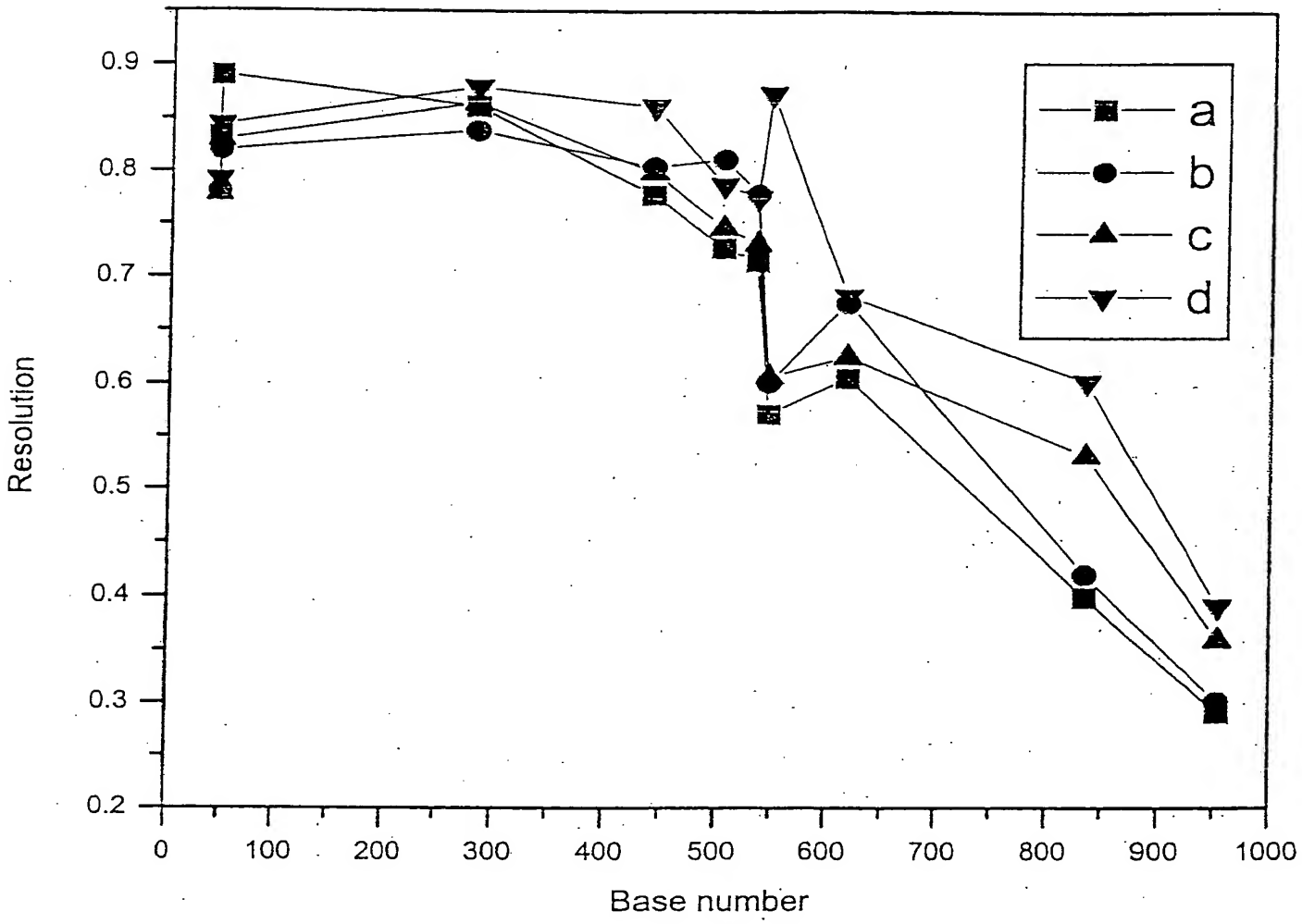
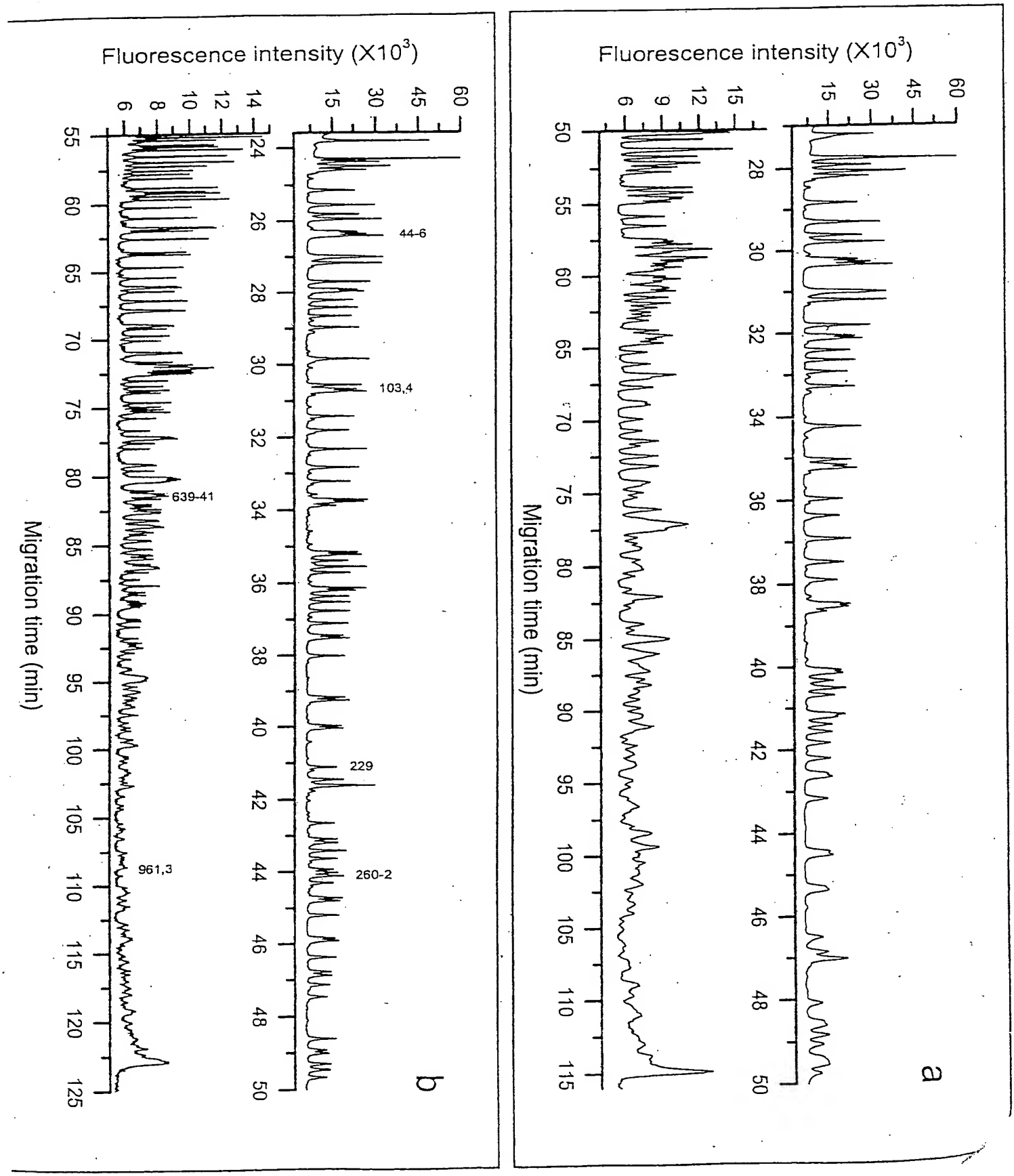

Resolution
Base number
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0
100
200
300
400
500
600
700
800
900
1000
a
b
c
d

Figure 1B


Fluorescence intensity (X10^3)
Migration time (min)
a
b
44-6
103,4
229
260-2
639-41
961,3

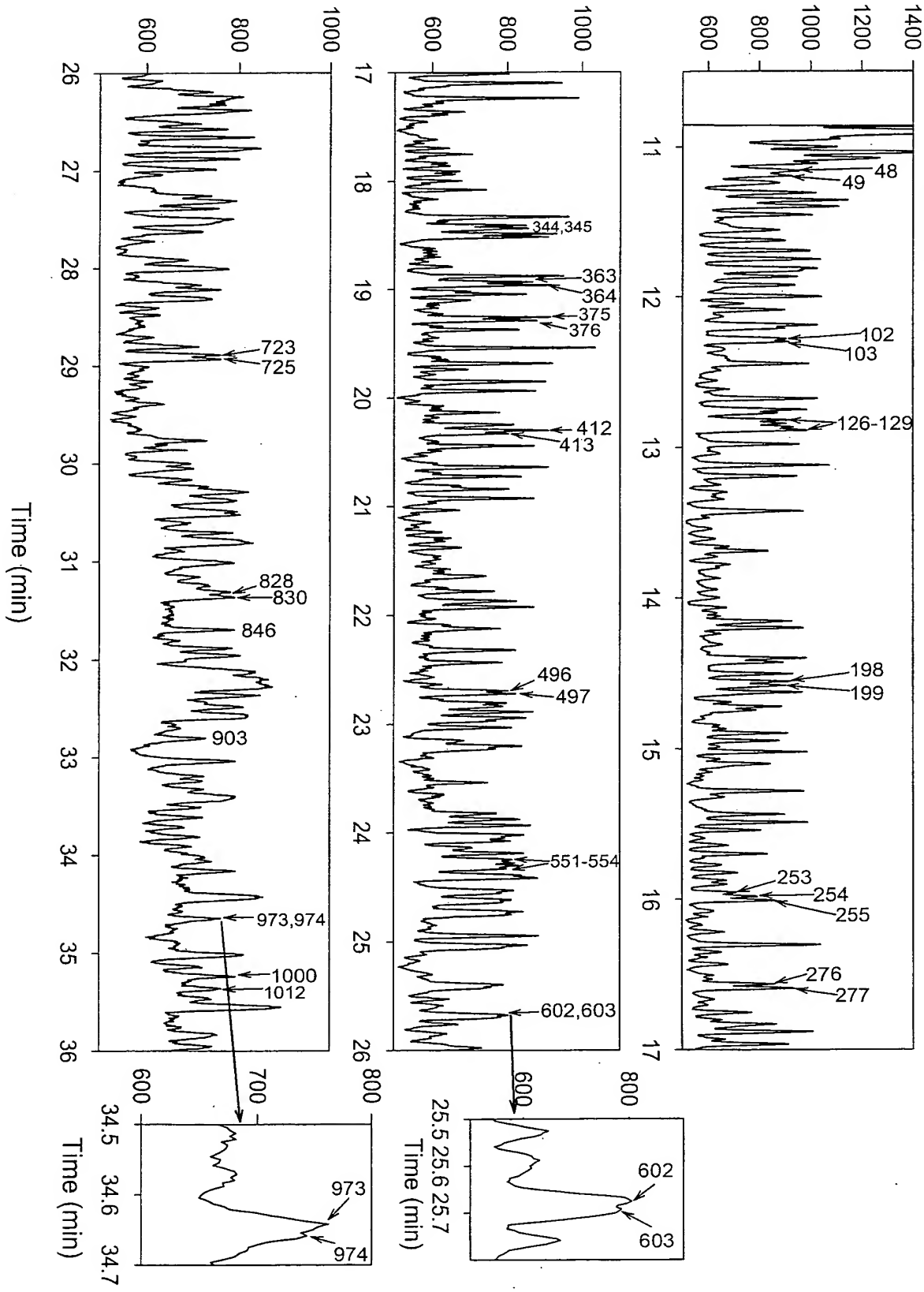

BigDye Terminator v3.0
Injection Voltage/Time: 47.6 V/cm / 15 sec.
Running Voltage/cm: 200 V/cm
Capillary length: 31 cm, ID/OD = 49 / 361 um
Temperature : 60° C
Running Buffer : 1xTTE+7M Urea
Yellow - T
48
49
102
103
126-129
198
199
253
254
255
276
277
344,345
363
364
375
376
412
413
496
497
551-554
602,603
723
725
828
830
846
903
973,974
1000
1012
602
603
973
974
Time (min)
Time (min)

Figure 20

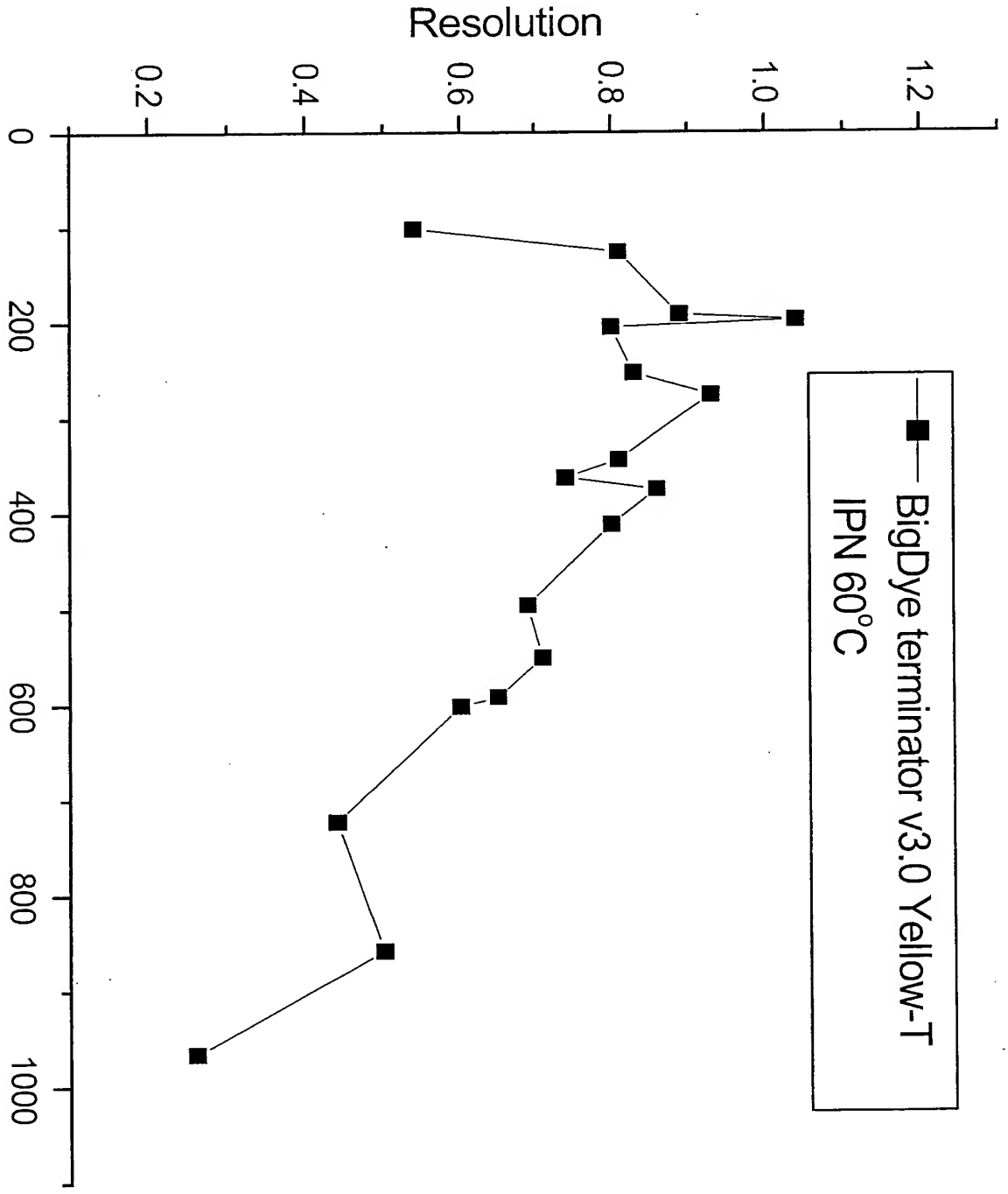

Resolution
0.2
0.4
0.6
0.8
1.0
1.2
0
200
400
600
800
1000
Base Number
BigDye terminator v3.0 Yellow-T
IPN 60°C

Figure 21